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Participatory rural appraisal for identification ethno-veterinary practices among primitive tribal groups of Girwa block, Udaipur, India

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Abstract

The participatory rural appraisal (PRA) exercise was conducted in Girwa block of Udaipur, India. Girwa (Geog. Lat. 24.58° N, Geog. Long. 73.6962° E) is a part of southern Aravali hills wherein 28% of the population belongs to the primitive tribal groups such as the Bheels, Meena, Gameti and Rawat. Since, animal husbandry is the main economic activity for tribal people of southern Aravali zone; it is important to study current animal health care system in the region. It was in this context that the PRA exercise was done as a pilot study to document, rapidly assess, and promote ethno-veterinary practices. The field work conducted in 15 villages and on 3742 animals which were being reared by the community under study to support agriculture and for milk purpose . A total 26 animal diseases in which ethnoveterinary practices were resorted to and 15 ethno-veterinary medicinal plants were identified as part of the study.

Keywords: *Animal husbandry, ethno-veterinary practices, participatory rural appraisal, traditional knowledge, tribal community*

Participatory Rural Appraisal (PRA) is a tool that is intended to enable local communities to conduct their own analysis and to plan and take action (Chambers, 1992). PRA is an approach that allows one to learn about provincial life from rural communities. It requires scientists/field researchers to encourage local healers to organise and discuss the health practices that they use. It is based on the principle that local people are creative and capable and can do their own investigations, analysis, and planning.

It is well established that traditional communities, who are primarily reliant on farming, have over time accumulated considerable information about breeds, production methods and ailments. Such community knowledge about animal welfare has been refreed to as existing veterinary learning

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(Mariner, 2000). Over the last few decades, collection of existing veterinary knowledge through surveys has become important for identification and prioritization of animal health problems (McCorkle and Mathias-Mundy, 1992). Ethno veterinary practices as a tool for optimising animal health is a handy experience that is customarily been passed down orally over time. Reporting customary practice / knowledge is important in impeding further loss of traditional knowledge, maintaining traditional knowledge over time, supporting benefit-sharing and protecting traditional knowledge from unwanted uses. Documentation raises certain additional concerns over rights, exposure, assent, possession and legitimate insurance all of which should be addressed prior to disclosure of conventional information. Numerous research reports on ethno-veterinary practises from various parts of India (Kanwar and Yadav, 2005; Kumar and Bharti, 2012; Khandelwal, 2017) have been documented . The Aravali region of Rajasthan is abundant with various types of flora and fauna and mostly populated by the tribal clans and their livelihood is primarily depends upon livestock. Due to the inadequate attention to animal health care in this region, higher rates of animal mortality and consequent impact on tribal livelihood are of serious importance. Records of ethno-veterinary practices adopted by local community living in southern Aravali region have been documented (Nag *et al*., 2007; Galav *et al*., 2013). The present work reports the documentation, rapid assessment and promotion of Ethno-Veterinary practice (EP) at a chosen area of study in Udaipur district of Rajasthan. In the backdrop of the WHO announcement to set up a global centre for traditional medicine in India, there is considerable significance for the to provide basic data for detailed scientific research in traditional medicine.

The adjoining 15 villages of Girwa block in Udaipur were purposively selected for the study. Dairy cooperatives were contacted to identify farmers who have been providing traditional health care services using local resources. Meetings were organised in the selected villages with the community to make an inventory of local EV practitioners (Guni), and elders who have expertise in treating specific livestock health condition at the local level. Personal and focus group discussions were held with the target beneficiaries to ensure their active participation in the study. A total of 3742 animals were selected from 15 villages under study (Table 1). A total 26 type of animal diseases for which traditional medicines are being used by locals were identified through discussion with members of the local community.

Table 1. Villages and the number of animals surveyed on livestock health conditions

Sl. No.	Name of Village	Number of animals
1.	Vali	455
2.	Budel	302
3.	Lalpura	111
4.	Kheri	107
5.	Kiawata Fala	117
6.	Malo ka Guda	300
7.	Jodhpuriya	125
8.	Charmar	251
9.	Dantisar	278
10.	Roda	239
11.	Bemla	264
12.	Kot	293
13.	Vasu	292
14.	Chotia	286
15.	Bhutia	322

The geographical coverage of present work was a cluster of 15 villages chosen from Girwa, Udaipur that covered a population of nearly two lakhs. The area is mainly inhabited by tribes such as the Bheels, Meena, Gameti and Rawat, living in the remote and inaccessible areas, very close to forests on the hilly tracts. The main target beneficiaries of this work were the traditional folk healers and their associates. Initial group meetings were conducted in 15 selected villages. Meetings focused on following areas: (i) current status of domesticated animals and their well-being (ii) livestock v/s livelihood, (iii) availability of EV practitioners and acceptability of their treatment services in the villages (iv) Transect walk in villages to rapidly observe socio – economic situation of households and associated natural resources. Apart from the above informal discussion, a focus group discussion was held to orient the folk

healers (Gunis) in participatory documentation, research and promotion of ethno – veterinary practices in the area. The commonly occurring animal ailments encountered in the study are shown in Table 2.

All the whole local practices were recorded as per the datasheet which was planned to ascertain that it would ensure the documentation required for domesticated animal's wellbeing. The specific groups of folk

Table 2. Commonly occurring animal ailments in the Girwa, Udaipur

Sr. No.	Local name of diseases	English name of diseases
1	*Muha ana*	Mouth rot
2	*Chichda*	Ticks infestation
3	*Banzpan*	Infertility
4	*Garbha paat*	Habitual abortion
5	*Sua Rog*	Milk fever
6	*Peshab mein khun ana*	Blood in urine
7	*Palm*	Palm eczema
8	*God Nikalana*	Peritonitis
9	*Gobar mein khun*	Dysentery
10	*Ankh jharna*	Conjunctivitis
11	*Ankh mein fool*	Cataract
12	*Kachabee*	Tale ganglion
13	*Pagarawa*	Foot rot
14	*Kharwa*	Foot and mouth diseases
15	*Kanta*	Prolapse of uterus
16	*Nasur*	Epistaxis
17	*Dastan*	Calf scour
18	*Galghotu*	Haemorrhagic septicemia
19	*Papariya*	Black quarter
20	*Kide padna*	Maggots wounds
21	*Afra*	Bloat
22	*Jer na padna*	Retention of placenta
23	*Thanela rog*	Mastitis
24	*Kabji*	Impaction
25	*Thando Gujarati*	Pneumonia
26	*Bug*	Ticks

To record conditions of animals and EP in the study area, the PRA exercises have been co-ordinated with 100% contribution of local community like family unit ladies, EVPs, and so forth. Each PRA unit consisted of 10 to 15 member residents from three to four towns who were young, moderately aged, seniors, pre-adult young ladies and wedded and child bearing ladies. The major exercises conducted using PRA were; identification of the local livestock health conditions, mapping of the local health care facilities through map preparation, mapping of all other natural resources, basic facilities in villages and mapping of information on occupation and village level entrepreneur activities.

health practitioners were actively involved during the documentation of traditional herbal medicine knowledge. The study revealed that the most of EVPs identified from pastoral communities and therefore their reputation extended only to their own village. However, few other EV practitioners had clients from far off villages. Also, their degree of specialization varied in terms of specialization of the type of diseases treated and the type of treatment offered. It was also observed that some of the practitioners treated both human as well as animals while some others treated only animals. The Traditional Health Practitioners (THPs) prepared medicines on the spot from plants that grew in the vicinity of their village and other locally available ingredients such as ghee

(butter), oil and butter milk. It was observed that either single plants or a combination of plant parts (leaf, root, seed, and bark) were fed as a formulation to animals. For oral doses, special utensils made up of parts of plants were used. Based on the information received through interviews with EVPs and interactions with livestock holders, few representative plants of ethno-veterinary medicine importance identified are listed in Table 3.

These medicinal plants were fed as fodder or mixed with cattle feed. The household list from current census data source of respective villages has been collected through base line survey. The base line survey of 532 house holds was also completed out of 2666 household from the targeted villages. The major findings from the base line survey revealed that 60% of the households belong to the scheduled tribe community and people

Table 3. Ethno-veterinary medicinal plants from Girwa, Udaipur

Sr. No.	Botanical Name	Vernacular Name	Habit	Parts/Formulation used	Disease/Cure
1.	*Ailanthus excelsa* Roxb (*Simaroubaceae)*	*Adua*	Tree	Leave paste	Tick and lice
				Bark with goat milk	Nose rope wound
2.	*Ampelocissus arnottiana* Planch (*Vitaceae*)	*Khata Limbu*	Climber	Root Paste	Bone fracture
3.	*Aristolochia bracteata* Retz (*Aristolochiaceae*)	*Kidamary*	Leaves	Leave Juice	Maggot wounds and Tympanites
4.	*Asparagus racemosus* (*Liliaceae*)	*Shatavari*	Climber	Root powder	To enhance milk yield
5.	*Azadirachta indica* (Meliaceae)	*Neem*	Tree	Leave paste	Tick control
				Leave Juice	Worms in intestine
6.	*Bombax ceiba* L (*Bombacaceae*)	*Semal*	Tree	Bark Infusion	Retention of placenta
7.	*Butea monosperma* (Lam.) kuntzee	*Khakhara*	Tree	Gum paste added with water	Foot-rot
				Infusion	Diarrhoea
8.	*Cassia auriculata* Linn (*Leguminosae*)	*Anwal*	Shrub	Leave paste	Infection in hoof
				Infusion of leave	Foot & Mouth Disease
				Leaves with Jaggery	Tympanites
9.	*Calotropis procera* (Ait.) R.Br. (*Asclepiadaceae*)	*Akada*	Shrub	Boiled water with leaves	Eczema
				Dry leaves powder	Wound healing
				Latex	Rot in hooves
10.	*Clerodendrum phlomidis* Linn (*Verbenaceae*)	*Arni*	Shrub	Leaves juice	Rot in hoof, Maggots wound
11.	*Leptadenia pyrotechnica* (Forsk.) Decne (*Asclepiadaceae*)	*Kneep*	Shrub	Infusion (Whole plant)	Uterus prolapse, Stomach disorder
12.	*Maerua arenaria* Hook.F.Th. (*Capparidaceae*)	*Jethivela*	Climber	Crushed root with butter milk	Tympanites, Throat swelling
13.	*Ocimum americanum* Linn. (*Labiatae*)	*Bhut-Bhangaro*	Herb	Whole plant	Maggot wounds
14.	*Tridex procumbens* Linn (compositae)	*Kalali*	Herb	Leave juice	Bleeding from fresh wound
15.	*Urginea indica* Kunth (*Liliaceae*)	*Koli-kando*	Herb	Crushed bulb juice	Maggot wound

from the tribal groups were traditionally living in clay or wooden hut (kaccha house) on foot hills. Basic facilities of livestock health care were lacking, most of the people had belief in traditional ethno-veterinary practices treatment and households depended on traditional treatment for their livestock health care. The community used raw medicine from the nearby forest areas and surveyed population use their traditional ways of the livestock treatments and health care in villages.

To protect and identify community knowledge of EP for domesticated animal wellbeing, community health knowledge registers (CHKRs) were also prepared during the present study. These CHKRs contain information on village profile, natural resources, livestock breeds, local names of common or critical livestock health conditions and its traditional treatment using local resources. The authors strongly recommend that CHKRs should be adopted by government agencies and working groups for grassroots recognition of such community intellectual property as well as its keepers in the villages. This would be a safeguard to protect traditional knowledge of community under certain legislative acts and policies.

Summary

The present work focuses on prioritisation of livestock health condition and PRA activity in the Girwa Block of Udaipur District, Rajasthan, India. For this, data were collected from 532 house holds in 15 villages who belonged to tribes like Bheels, Meena, Gameti and Rawat tribal communities. A total of 3742 animals were kept by these communities for milk and agriculture. Discussions among practitioners to prioritize livestock health conditions occurring in chosen study area were conducted among knowledgeable persons like farmers and EVPs. These key informants shared information about local livestock health conditions and traditional medicinal knowledge. Data were collected using baseline survey that leads to preparation of community health knowledge registers. A total of fifteen medicinal plants being used by livestock holders in study area to relieve animal ailments, 26 types of animal disease and 15 ethno-veterinary medicinal plants commonly used are reported in this communication.

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Conflict of interest

The authors declare that they have no conflict of interest.

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